EXERCISE EFFECTS ON BLOOD GLUCOSE RESPONSE TO CARBOHYDRATE DRINKS BETWEEN ETHNICITIES

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Abstract

The purpose of this study was to determine the exercise effect on blood glucose response to carbohydrate drinks between two ethnicities: Asian and Caucasian.

Methods

Five non-athlete Asian Women and five non-athlete Caucasian Women from the University of Texas at Arlington volunteered for this study.

- Race Age Weight Height % Body Fat
  - Asian 23.8±1.64 years 125.1±37.79 lbs 62±1 inches 25.88±10.24 %
  - Caucasian 21.6±1.67 years 141.7±11.79 lbs 62.6±4.22 24.92±3.27 %

- Each subject had their body fat percentage assessed by a Bioelectrical Impedance Analysis device.
- The baseline blood glucose was taken from each subject and recorded.

Results

- Next, each subject consumed Gatorade (5ml/kg of their body weight) and waited for 20 minutes after which their blood glucose was measured and recorded again.
- Then the subjects performed the VO2 max test based on the Bruce Protocol.

<table>
<thead>
<tr>
<th>Race</th>
<th>VO2 (ml/kg/min)</th>
<th>RPE</th>
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</thead>
<tbody>
<tr>
<td>Asian</td>
<td>24.66±4.59</td>
<td>16±1</td>
</tr>
<tr>
<td>Caucasian</td>
<td>33.32±3.82</td>
<td>17.4±0.5</td>
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*Significantly different, p<0.05

Conclusions

- Based on the results of this study there was a trend for the Asian subjects to increase blood glucose more rapidly than the Caucasian subjects following the consumption of carbohydrate drink(Gatorade) and following exercise the Asian subjects decreased blood glucose more rapidly than Caucasian subjects.
- Also Caucasian subjects had higher VO2 max and higher RPE which may be due to differences in exercise training.
- Suggestion for future studies: Larger sample size, chronic supplementation and insertion of control group.